

Name: _____

Test Your Skills 01
(A.k.a. Diagnostic Exercises)
Deadline: 2/10/2017

Instructions

Answer these questions, in complete sentences and using mathematical notation properly, to earn extra credit. You are to work on these individually, without collaboration. You may consult your book, myself, or the math lab.

Exercises

Exercise 1. *Define* real valued function.

Exercise 2. *Define* inverse function.

Exercise 3. *Sketch and label* the unit circle *and explain its relationship to the sine and cosine functions.*

Exercise 4. *Describe logarithmic functions.*

Exercise 5. *State the power rule for differentiation and illustrate its application using an example.*

Exercise 6. *State the product rule for differentiation and illustrate its application using an example.*

Exercise 7. *State the chain rule for differentiation and illustrate its application using an example.*

Exercise 8. *Briefly describe how one might develop the concept of a definite integral and state the formal definition.*

Exercise 9. *State the Fundamental Theorem of Calculus and give an example application.*

Exercise 10. *State the Substitution Method for integration and illustrate how it is related to the Chain Rule using the example you provide in Exercise 7.*